

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in this application.

1-9. (Cancelled).

10. (New) An optical modulator comprising

a substrate consisting of a material having an electrooptic effect,

an optical waveguide provided on said substrate,

control electrodes for controlling a phase of light being guided through said optical waveguide, and

a recess in a surface of said substrate, one of said control electrodes being formed on said recess, wherein the control electrode formed on said recess is provided with a stress relaxing means.

11. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means comprises configuration of said control electrode on the recess as thinner than control electrodes on non-recess portions of said surface of said substrate.

12. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means comprises configuration of said control electrode on the recess as thinner than a depth of the recess.

13. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means configures a percentage of voids of said control electrode on the recess in a range of 10 to 90 percent.

14. (New) The optical modulator as claimed in Claim 11, wherein a thickness of said control electrode on the recess is 30000 to 500Å.

15. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means creates a space between the substrate surface where said recess is formed and said control electrode on the recess.

16. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

17. (New) The optical modulator as claimed in Claim 10, wherein said stress relaxing means comprises configuration of said control electrode on the recess as a thin line for connecting the control electrodes formed on non-recess portions of said surface of said substrate next to said recess.

18. (New) The optical modulator as claimed in Claim 10, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

19. (New) The optical modulator as claimed in Claim 10, wherein said control electrode provided with said stress relaxing means is a grounding electrode.

20. (New) The optical modulator as claimed in Claim 11, wherein said stress relaxing means comprises configuration of said control electrode on the recess as thinner than a depth of the recess.

21. (New) The optical modulator as claimed in Claim 11, wherein said stress relaxing means configures a percentage of voids of said control electrode on the recess in a range of 10 to 90 percent.

22. (New) The optical modulator as claimed in Claim 12, wherein said stress relaxing means configures a percentage of voids of said control electrode on the recess in a range of 10 to 90 percent.

23. (New) The optical modulator as claimed in Claim 12, wherein a thickness of said control electrode on the recess is 30000 to 500Å.

24. (New) The optical modulator as claimed in Claim 13, wherein a thickness of said control electrode on the recess is 30000 to 500Å.

25. (New) The optical modulator as claimed in Claim 11, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

26. (New) The optical modulator as claimed in Claim 12, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

27. (New) The optical modulator as claimed in Claim 13, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

28. (New) The optical modulator as claimed in Claim 14, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

29. (New) The optical modulator as claimed in Claim 15, wherein said stress relaxing means comprises formation of said control electrode on the recess in a shape of a stripe or of a lattice.

30. (New) The optical modulator as claimed in Claim 11, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

31. (New) The optical modulator as claimed in Claim 12, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

32. (New) The optical modulator as claimed in Claim 13, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

33. (New) The optical modulator as claimed in Claim 14, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

34. (New) The optical modulator as claimed in Claim 15, wherein said substrate comprises a direction of a crystal axis capable of changing a refractive index in a direction vertical to the substrate surface by electrooptic effect.

35. (New) The optical modulator as claimed in Claim 11, wherein said control electrode provided with said stress relaxing means is a grounding electrode.

36. (New) The optical modulator as claimed in Claim 12, wherein said control electrode provided with said stress relaxing means is a grounding electrode.

37. (New) The optical modulator as claimed in Claim 13, wherein said control electrode provided with said stress relaxing means is a grounding electrode.